

SMD EA Models, TCXOs, 3.0 Volts

MF Electronics EA (SMD) oscillators are a miniature 6 x 3.5 mm, with clipped sine wave output. These oscillators use tiny precise crystals operating at standard frequencies from 12.8 to 19.68 MHz. Seven frequency choices are available. They have electronic frequency control, so that the frequency can be exactly set to a standard frequency.

They are furnished in tape and reel, and are economically priced for volume production. They come with large gold-plated pads, and solder pad castellations to facilitate automated solder joint inspection.

Operating at 3.0 volts and with current less than 2 mA., they are ideal for battery operated equipment, where the standard frequencies may be used.

FEATURES

- Low power, low voltage, small size
- Ideal for battery powered equipment
- Recommended for portable, mobile, wireless equipment
- Stability is ± 2.5 ppm from -30 to +80 °C
- Available in seven standard frequencies
- Compatible with wireless standards

CONNECTIONS

Pad 1.	Electronic Frequency Control
Pad 2.	Ground
Pad 3.	Output
Pad 4.	Vcc

PACKAGE

These surface mount oscillators are 6 x 3.5 mm

FIXED FREQUENCY

These surface mount oscillators are available in seven standard frequencies

VOLTAGE CONTROL

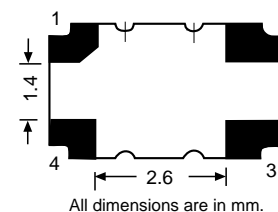
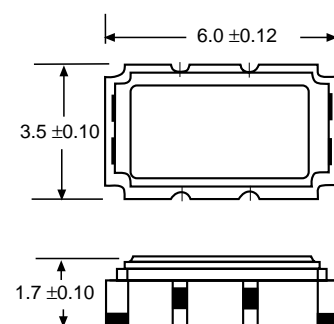
± 5 to ± 12 ppm user-controlled by external voltage

STABILITY

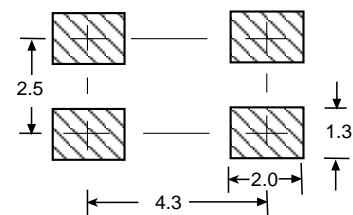
± 2.5 ppm from -30 to +80°C

AGING

Less than 1 ppm per year



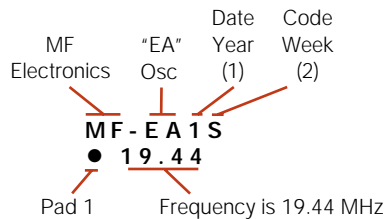
TCXO EA Models



Land Pattern

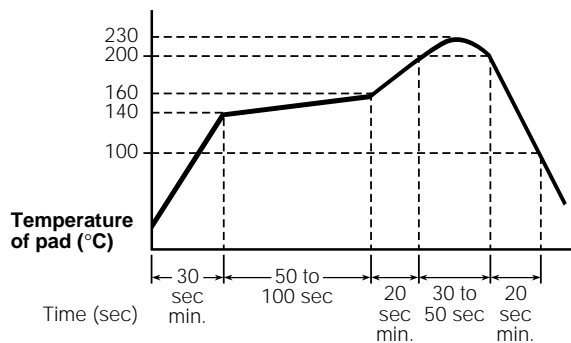
MARKING SPECIFICATION

The format for the marking is:



NOTES

- (1) Number in date code is year. In example, "1" is 2001.
- (2) Letter in date code is one two-week period. Year is divided into 26 two-week intervals. Each two-week interval is represented by one letter of the alphabet, in sequence.



Recommended Reflow Soldering Profile

SPECIFICATIONS

Temperature — All models

Operating -30 to +80°C

Standard Frequencies

12.8, 13.0, 14.4, 16.384,
19.2, 19.44, 19.68 MHz

Load

10 pf in parallel with 10Kohms

Higher Harmonics

-10 dbc

Output Levels

0.9 volts p-p, min

Frequency Stability vs Temperature vs Voltage

±2.5 ppm from -30 to +80°C
±0.3 ppm

Aging

±1 ppm/year

Frequency Control

±5 to ±12 ppm for 1.5 ±1.0 V

Input Voltage, V_{DD}

MIN.	TYP	MAX	UNITS
2.7	3.0	3.3	volts

Input Current

12.6 to 13.0 MHz	1.5	mA
14.4 to 19.68 MHz	2.0	mA

HOW TO ORDER

For Part Number, use model number, and add frequency in MHz, for example:

EA - 19.44 M

↑
"EA"
is model
type

↑
"19.44 M"
is frequency
in MHz